

VA FORM 08-6231

BID DOCUMENTS - NOT FOR CONSTRUCTION FULLY SPRINKLERED

Project Title Drawing Title Project Number ARCHITECT/ENGINEERS: CONSULTANTS: Office of AE - UNIVERSITY DRIVE SITE/CIVIL: VA244-P-1749 SOIL EROSION AND SEDIMENT RESEARCH BUILDING ADDITION SCOTT ROWLAND, P.E LANGAN ENGINEERING AND Construction **Building Number** ELANGAN CONTROL DETAILS AND NOTES ENVIRONMENTAL SERVICES NO. 30 and Facilities PROFESSIONAL ENGINEER ▲ Miller-Remick LLC PA LICENCE NO. PE-080563 M.E.P. & Structural Engineering A Veteran Owned Small Business Approved: Project Director Drawing Number Management VA HEALTHCARE, PITTSBURGH PA Canonsburg, PA. 15317-9540 1010 KINGS HIGHWAY SOUTH P: 724.514.5100 F: 724.514.5101 BUILDING ONE - 1st FLOOR Checked www.langan.com CHERRY HILL, NEW JERSEY 08034 Department of Veterans Affairs SIGNATURE: ___ PHONE: (856)429-4000 NEW JERSEY **PENNSYLVANIA** NEW YORK CONNECTICUT FLORIDA NEVADA VIRGINIA CALIFORNIA SDR 04/30/2014 FAX: (856)429-5002 DESCRIPTION

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ADVANCED CLEARING AND GRUBBING OPERATIONS FOR STRIP UTILITY LINE INSTALLATIONS SHALL BE LIMITED TO A DISTANCE EQUAL TO TWO TIMES THE LENGTH OF PIPE INSTALLATION THAT CAN BE COMPLETED IN ONE DAY. 1. SEEDING SHALL TAKE PLACE IN THE SPRING (APRIL 1 TO JUNE 1) OR THE FALL (SEPTEMBER 1 TO OCTOBER MAINTENANCE SCHEDULE <u>MATERIALS</u> WORK CREWS AND EQUIPMENT FOR TRENCHING, PLACEMENT OF PIPE, PLUG INSTALLATION, AND BACKFILLING WILL BE SELF-CONTAINED AND SEPARATE FROM CLEARING AND GRUBBING AND SITE RESTORATIONS AND STABILIZATION 2. ELIMINATE UNWANTED VEGETATION PRIOR TO SEEDING USING A BROAD-SPECTRUM NON-SELECTIVE HERBICIDE • TOPSOIL: 6-INCH MIN. TOPSOIL SHALL BE REQUIRED ON ALL LAWN AREAS. PER MANUFACTURER'S SPECIFICATIONS. CONTROL MEASURE INSPECT PROBLEMS TO LOOK FOR POSSIBLE REMEDIES LIMESTONE: RAW, GROUND AGRICULTURAL LIMESTONE CONTAINING MORE THAN 90 PERCENT CALCIUM DAILY TRENCH EXCAVATION SHALL BE LIMITED TO THE LENGTH OF PIPE PLACEMENT, PLUG INSTALLATION AND 3. CONTRACTOR SHALL INSTALL SEED MIXTURE USING A NO-TILL TRUAX-TYPE DRILL IN AREAS TO BE SEEDED CARBONATES (ADJUST pH LEVELS TO 6.5 TO 7.0). APPLY AT A RATE OF 6 TON/AC (275 LB/ 1,000 SF), WEEKLY AND SEDIMENT AT TOE OF CHECK FOR TOP-OF-SLOPE BACKFILLING THAT CAN BE COMPLETED THE SAME DAY. VEGETATION WITH MEADOW MIX. UNLESS OTHERWISE INDICATED BY SOIL TESTS. AFTER EVERY DIVERSION AND INSTALL IF SLOPE RUNOFF EVENT WATER WHICH ACCUMULATES IN THE OPEN TRENCH WILL BE COMPLETELY REMOVED BY PUMPING INTO A SILT BAG, NEEDED. 4. CONTRACTOR SHALL IMMEDIATELY ROLL NEWLY SEEDED AREAS WITH CULTI-PACKER OR SIMILAR DEVICE TO • COMMERCIAL FERTILIZER: IN THE ABSENCE OF A SOIL TEST, USE 1000 LB/AC OF 10-20-20 (23 LB/1000 PRIOR TO PLACEMENT OR BACKFILLING OPERATIONS. ENSURE PROPER SEED/SOIL CONTACT. SF) MIXED INTO SEEDBED PRIOR TO SEEDING, OR IN A TANK WITH SEED WHEN HYDROSEEDING. RILLS AND GULLIES FORMING | FILL RILLS AND REGRADE FOLLOWING PIPE PLACEMENT AND TRENCH BACKFILLING, THE DISTURBED AREA SHALL BE GRADED TO FINAL GULLIED SLOPES. 5. CONTINUOUS MOISTURE FOR 4-6 WEEKS MUST BE INSURED TO ALLOW PROPER GERMINATION, IF RAIN DOES • MULCH: CLEAN OAT OR WHEAT STRAW SHALL BE FREE FROM MATURE SEED-BEARING STALKS OR ROOTS CONTOURS AND APPROPRIATE TEMPORARY EROSION AND SEDIMENT POLLUTION CONTROL MEASURES/FACILITIES WILL NOT OCCUR CONTRACTOR SHALL PROVIDE SUPPLEMENTAL IRRIGATION TO NEWLY SEEDED AREAS PER OF PROHIBITED OR NOXIOUS WEEDS AS DEFINED BY THE PENNSYLVANIA SEED ACT 1947. APPLY AT A INSTRUCTIONS INCLUDED IN SEEDING SPECIFICATION. RESEED, FERTILIZE, AND BARE SOIL PATCHES RATE OF 3 TONS/AC (139 LBS/1000 SF). PRECAUTION SHALL BE TAKEN TO STABILIZE THE MULCH MULCH BARE AREAS. UNTIL THE VEGETATIVE COVER IS ESTABLISHED 6. IN CERTAIN CASES TRENCHES CANNOT BE BACKFILLED UNTIL THE PIPE IS HYDROSTATICALLY TESTED, OR ANCHORS REMOVE ALL DEBRIS, INCLUDING LARGE STONES UP TO TWO INCHES. TILL SOIL TO A DEPTH OF FOUR INCHES AND OTHER PERMANENT FEATURES ARE INSTALLED. IN THESE CASES, REQUIREMENT 5 IS MODIFIED AS FOLLOWS: TO SIX INCHES. APPLY AGRICULTURAL PULVERIZED GRADED LIME AT A RATE OF 6 TONS PER ACRE. BEFORE • INOCULANT: INOCULANT FOR TREATING LEGUMINOUS SEEDS SHALL BE A STANDARD COMMERCIAL DAILY BACKFILLING OF TRENCH MAY BE DELAYED FOR SIX DAYS. ALL PRESSURE TESTING AND THE COMPLETE UNDERCUTTING OF SOCK JUNE 15, APPLY 500 lbs. OF 10-20-20 FERTILIZER PER ACRE. WORK FERTILIZER INTO TOP INCH OF SOIL. FILTER SOCK CHECK POST SIZE AND PRODUCT CONSISTING OF A SUITABLE CARRIER CONTAINING A CULTURE NITROGEN FIXING BACTERIA BACKFILLING OF THE OPEN TRENCH MUST BE COMPLETED BY THE SEVENTH WORKING DAY. IF DAILY BACKFILLING IS AFTER EVERY AND/OR SOCK COLLAPSING STRAW MULCH SHOULD BE APPLIED AT A RATE OF 3 TONS PER ACRE. SPACING, CHECK DRAINAGE SPECIFIC FOR SEEDS TO BE INOCULATED. INOCULANT SHALL NOT BE USED LATER THAN DATE INDICATED DELAYED, THE DISTURBED AREA WILL BE GRADED TO FINAL CONTOURS, APPROPRIATE TEMPORARY EROSION AND RUNOFF EVENT AREA, SLOPE LENGTH, AND SEDIMENT CONTROL MEASURES/FACILITIES WILL BE INSTALLED, AND THE AREAS SEEDED AND MULCHED WITHIN THE GRADIENT BEHIND BARRIER. NEXT TWO CALENDAR DAYS. CORRECT ANY SUBSTANDARD • SEED MIXTURE: SEED MIXTURE SHALL BEAR A GUARANTEED STATEMENT OF ANALYSIS AND SHALL BE CONDITION. COMPOSED OF THE FOLLOWING VARIETIES AND MIXED IN THE PROPORTIONS SPECIFIED UTILITY INSTALLATION REQUIREMENTS **GENERAL SEEDING NOTES** REPLACE WITH CONTINUOUS PIECE OF SOCK FROM POST TO POST. SECURELY ANCHOR WITH PROPER STAPLES. 1. STAKE OUT LIMIT OF DISTURBANCE FOR GRADING OPERATIONS OVER THE ENTIRE SITE. PROPORTION
BY WEIGHT MINIMUM PURITY <u>MINIMUM</u> SEED MIXTURE (PADOT TYPE W) **GERMINATION** RUNOFF ESCAPING EXTEND SOCK. • LIMESTONE: RAW, GROUND AGRICULTURAL LIMESTONE CONTAINING MORE THAN 90 PERCENT CALCIUM INSTALL ALL 12-INCH FILTER SOCK AS INDICATED ON DRAWING CE-101 BELOW CONSTRUCTION OF PROPOSED AROUND BARRIER CARBONATES (ADJUST pH LEVELS TO 6.5 TO 7.0). APPLY AT A RATE OF 1 TON/AC, UNLESS OTHERWISE INDICATED SLOPES. METHOD OF INSTALLATION AND MAINTENANCE IN ACCORDANCE WITH PADEP REQUIREMENTS AND AS PERENNIAL RYEGRASS MIXTURE BY SOIL TESTS. INDICATED IN THE DETAIL ON DRAWING CE-102. THE INSTALLATION OF THE FILTER SOCK SHOULD BE DONE PRIOR 98% 90% (LOLIUM PERENNE) - COMBINATION OF IMPROVED SEDIMENT LEVEL NEAR REMOVE SEDIMENT WHEN TO ANY EARTH DISTURBANCE. CERTIFIED VAR. WITH NO ONE VARIETY EXCEEDING TOP OF SOCK LEVEL REACHES HALF OF COMMERCIAL FERTILIZER: IN ABSENCE OF A SOIL TEST, USE 1000 LB/AC OF 10-20-20 (23 LB/1000 SF) MIXED 50% OF THE TOTAL RYEGRASS COMPONENT. SOCK HEIGHT. INSTALL INLET PROTECTION AND CONCRETE WASHOUTS AS INDICATED ON DRAWING CE-101 AND AS INDICATED IN INTO SEEDBED PRIOR TO SEEDING, OR IN A TANK WITH SEED WHEN HYDROSEEDING THE DETAILS ON DRAWING CE-102. MULCH: CLEAN OAT OR WHEAT STRAW SHALL BE FREE FROM MATURE SEED-BEARING STALKS OR ROOTS OF 98% 30% 85% INLET PROTECTION REMOVE SEDIMENT AND CREEPING RED FESCUE OR CHEWINGS FESCUE SEDIMENT ACCUMULATION WEEKLY AND PROHIBITED OR NOXIOUS WEEDS AS DEFINED BY THE PENNSYLVANIA SEED ACT 1947. APPLY AT A RATE OF 3 4. DEMOLISH THE ON-SITE FEATURES, INCLUDING CURBING AND PAVEMENT, AS INDICATED ON DRAWING CD-101. AFTER EVERY DISPOSE ON SITE. TONS/AC (139 LBS/1000 SF). PRECAUTION SHALL BE TAKEN TO STABILIZE THE MULCH UNTIL THE VEGETATIVE DELETERIOUS MATERIALS AND DEMOLITION DEBRIS SHOULD BE DISPOSED OF OFF-SITE ACCORDING TO ALL RUNOFF EVENT COVER IS ESTABLISHED. APPLICABLE LOCAL, STATE, AND FEDERAL REQUIREMENTS. KENTUCKY BLUEGRASS MIXTURE CLEAN AND/OR SEDIMENT ACCUMULATED (POA PRATENSIS) - COMBINATION OF IMPROVED REPLACE BAG IN INLET FILTER BAG TO SEED MIXTURE: SEED MIXTURE SHALL BEAR A GUARANTEED STATEMENT OF ANALYSIS AND SHALL BE COMPOSED 50% 80% BEGIN CUT AND FILL OPERATIONS. CONSTRUCT BUILDING FOUNDATION, CURBING, AND SIDEWALKS AS SHOWN ON CERTIFIED VARIETIES WITH 1/2 FULL OF THE FOLLOWING VARIETIES AND MIXED IN THE PROPORTIONS SPECIFIED DRAWING CS-101. AS SITE IS BROUGHT TO FINAL GRADE, BEGIN CONSTRUCTION OF THE STORM WATER AND NO ONE VARIETY EXCEEDING 25% OF SANITARY SEWER SYSTEMS AS SHOW ON DRAWING CG-101 AND DRAWING CU-101. THE TOTAL BLUEGRASS COMPONENT. REBUILD BARRIER RUNOFF ESCAPING SEED MIXTURE (PADOT TYPE W) AROUND BARRIER 6. BEGIN CONSTRUCTION OF OTHER ON-SITE UTILITIES. REFER TO DRAWING CU-101. <u>GERMINATION</u> FILTER BAG TORN OR 7. COMPLETE REMAINDER OF THE GRADING OPERATIONS AND SANITARY AND STORM SEWER INSTALLATION. REPLACE BAG RYE GRASS DAMAGED 90% VAR. KENTUCKY 8. ONCE FINAL SLOPES AND GRADES ARE ACHIEVED, STABILIZE WITH PERMANENT SEED AND MULCH OR SOD. *THREE PERCENT REDTOP MAY BE ADDED TO THE LAWN MIXTURE ON SLOPE AREAS OR FOR LATE SPRING OR 9. PLACE TOPSOIL ON THE REMAINDER OF THE SITE NOT RECEIVING PAVING. SEED AND MULCH ALL DISTURBED PERMANENT SEEDING SHALL BE APPLIED AT A RATE OF 21 POUNDS PER 1,000 SQUARE YARDS. LATE FALL SEEDING. AREAS. ALL DISTURBED AREAS MUST BE TEMPORARILY STABILIZED IF REMAINING IDLE, OR ANTICIPATED AS REMAINING IDLE, FOR 20 DAYS OR LONGER. IN ABSENCE OF A SOIL TEST, LIME SHOULD BE ADDED AT A RATE OF THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE MAINTENANCE OF ALL TEMPORARY CONTROL MEASURES 275 LBS / 1000 SF. DURING CONSTRUCTION. ALL DEVICES SHOULD BE INSPECTED WEEKLY AND AFTER EVERY RUNOFF EVENT. IF PREPARATION OF SEEDING: DURING THESE INSPECTIONS, ANY DEVICE IS FOUND TO BE CLOGGED, DAMAGED, HALF-FULL OF SILT OR NOT 10. ONCE THE ABOVE STEPS ARE COMPLETED AND AREA IS BROUGHT TO FINAL GRADE AND STABILIZED (UNIFORM 70% FULLY OPERATIONAL, THE DEVICE(S) SHALL BE CLEANED OF ALL DEBRIS. ALL REPAIRS MUST BE COMPLETED TEMPORARY SEEDING SHALL BE APPLIED AT THE RATE OF TEN (10) POUNDS PER ONE THOUSAND (1,000) SQUARE 1. GRADE AS NECESSARY TO BRING SUBGRADE TO A TRUE, SMOOTH SLOPE PARALLEL TO AND SIX INCHES PERENNIAL VEGETATIVE COVER ESTABLISHED IN UNPAVED AREAS), REMOVE ALL EROSION AND SEDIMENT CONTROL WITHIN 72 HOURS OF DISCOVERY. BELOW FINISHED GRADE. PLACE TOPSOIL OVER SPECIFIED AREAS TO A DEPTH SUFFICIENTLY GREATER THAN SIX (6) OR EIGHT (8) INCHES SO THAT AFTER SETTLEMENT AND LIGHT ROLLING, THE COMPLETE WORK UPON COMPLETION OF THE PROJECT, RECYCLING OR DISPOSAL OF ALL TEMPORARY EROSION CONTROL MATERIALS WILL CONFORM TO LINES, GRADES AND ELEVATIONS SHOWN ON DRAWING CG-101. SHALL BE THE RESPONSIBILITY OF THE EARTHMOVING CONTRACTOR. CONSTRUCTION WASTE INCLUDES. BUT IS NOT LIMITED TO, EXCESS SOIL MATERIALS, SILT REMOVED FROM EROSION CONTROL FACILITIES, EXCESS BUILDING 2. FERTILIZER AND AGRICULTURAL LIMESTONE SHALL BE THOROUGHLY INCORPORATED INTO THE SOIL BY MATERIALS, CONCRETE WASH WATER, SANITARY WASTES, AND OBSOLETE EROSION CONTROL MATERIALS (SILT ROTOTILLING OR OTHER METHOD TO A MINIMUM DEPTH OF FOUR (4) INCHES. THE ENTIRE SURFACE SHALL SEQUENCE OF CONSTRUCTION ALL AREAS TO BE SEEDED SHALL BE LOOSENED TO A DEPTH OF AT LEAST TWO INCHES BY MECHANICAL MEANS, SOCKS, INLET PROTECTION, ETC.) THEN BE REGRADED AND ROLLED. AREAS TO BE SEEDED SHALL THEN BE LOOSENED TO A DEPTH OF TWO OR AS APPROVED BY THE LANDSCAPE ARCHITECT. (2) INCHES. SEEDING SHALL BE DONE IN TWO SEPARATE OPERATIONS. THE SECOND SEEDING SHALL BE SILT REMOVED FROM SEDIMENT CONTROL FACILITIES SHALL BE SPREAD ON THE TOPSOIL STOCKPILE, OR IN LAWN DONE IMMEDIATELY AFTER THE FIRST AND AT RIGHT ANGLES TO THE FIRST SEEDING AND LIGHTLY RAKED OR LANDSCAPE AREAS. OBSOLETE EROSION CONTROL MATERIALS AND EXCESS BUILDING MATERIALS MUST BE 2. MULCH SEEDED AREAS IMMEDIATELY AFTER SEEDING. INTO THE SOIL. MULCH SEEDED AREAS IMMEDIATELY AFTER SEEDING. DISPOSED OF AT A DEP APPROVED SITE. IF THE SITE WILL HAVE EXCESS FILL THAT WILL NEED TO BE EXPORTED TO AN OFF-SITE LOCATION, THE 3. SEED ALL DISTURBED AREAS WITH THE TEMPORARY SEED MIXTURE EXCEPT THOSE AREAS SHOWN TO BE SEEDED RESPONSIBILITY OF CLEAN FILL DETERMINATION AND ENVIRONMENTAL DUE DILIGENCE RESTS ON THE APPLICANT. IF WITH STEEP SLOPE MIXTURE, UNLESS OTHERWISE NOTED ON THE DRAWINGS. ALL CONSTRUCTION WASTES INCLUDING, BUT NOT LIMITED TO, TEMPORARY BMPS MUST BE DISPOSED OF ALL CUT AND FILL MATERIALS WILL BE USED ON THE SITE, A CLEAN FILL DETERMINATION IS NOT REQUIRED BY THE PROPERLY AT AN APPROVED DEP WASTE SITE. CONSTRUCTION WASTE ALSO INCLUDES WASHOUT FROM THE OPERATOR UNLESS THERE IS A BELIEF THAT A SPILL OR RELEASE OF A REGULATED SUBSTANCE OCCURRED ON THE CLEANING OF CHUTES, MIXERS, AND HOPPERS OF CONCRETE DELIVERY VEHICLES. ALL FILL SHALL COMPLY WITH THE STANDARDS SET FORTH IN THE DEPARTMENT OF ENVIRONMENTAL PROTECTION DOCUMENT NUMBER 258-2182-773 "MANAGEMENT OF FILL." PERMANENT SEEDING NOTES **TEMPORARY SEEDING NOTES** MAINTENANCE SCHEDULE . FILL THAT DOES NOT QUALIFY AS CLEAN FILL IS REGULATED FILL. REGULATED FILL IS WASTE AND MUST BE MANAGED IN ACCORDANCE WITH PADEP'S MUNICIPAL OR RESIDENTIAL WASTE REGULATIONS BASED ON 25 PA CODE CHAPTERS 287 RESIDUAL WASTE MANAGEMENT OR 271 MUNICIPAL WASTE MANAGEMENT, WHICHEVER IS APPLICABLE. CLEAN FILL IS DEFINED AS "UNCONTAMINATED, NON-WATER SOLUBLE, NON-DECOMPOSABLE, INERT, SOLID MATERIAL" THE TERM INCLUDES SOIL, ROCK, STONE, DREDGED MATERIAL, USED ASPHALT, AND BRICK, BLOCK OR CONCRETE FROM CONSTRUCTION AND DEMOLITION ACTIVITIES THAT IS SEPARATE FROM OTHER WASTE AND IS RECOGNIZABLE AS **COMPOST FILTER SOCK CALCULATIONS** SUCH. THE TERM DOES NOT INCLUDE MATERIALS PLACED IN OR ON THE WATERS OF THE COMMONWEALTH UNLESS PROPOSED SLOPE OTHERWISE AUTHORIZED UNCONTAMINATED MEANS UNAFFECTED BY SPILL OR RELEASE, OR IF AFFECTED, LEVELS ARE FILTER FILTER SOCK MAX. PERMISSIBLE PROPOSED SLOPE **LENGTH BASED ON** BELOW RESIDENTIAL SHS. SLOPE (%) SOCK # SIZE (IN.) SLOPE LENGTH (FT) 1 LENGTH (FT) **EXISTING OR** THE APPLICANT MUST PERFORM ENVIRONMENTAL DUE DILIGENCE TO DETERMINE IF THE FILL MATERIALS ASSOCIATED PROPOSED GRADE? WITH THE PROJECT QUALIFY AS CLEAN FILL. ENVIRONMENTAL DUE DILIGENCE IS DEFINED AS "INVESTIGATIVE EXISTING 400 TECHNIQUES, INCLUDING, BUT NOT LIMITED TO, VISUAL PROPERTY INSPECTION, ELECTRONIC DATA BASE SEARCHES, 2.5 460 EXISTING 12 REVIEW OF PROPERTY OWNERSHIP, REVIEW OF PROPERTY USE HISTORY, SANBORN MAPS, ENVIRONMENTAL 1.7 12 530 EXISTING QUESTIONNAIRES, TRANSACTION SCREENS, ANALYTICAL TESTING, ENVIRONMENTAL ASSESSMENTS OR AUDITS" 4 12 0.9 520 EXISTING 95 1 - Maximum slope length taken from page #66, Figure 4.2 of the PA E&S Manual CLEAN FILL AND ENVIRONMENTAL DUE DILIGENCE COMPOST FILTER SOCK CALCULATION TABLE ACT 287 AS AMENDED UTILITY LOCATIONS AS SHOWN ON THIS PLAN ARE APPROXIMATE AND IT IS THE RESPONSIBILITY OF THE CONTRACTOR, PER PA. ACT 287 TO CONTACT THE UTILITY COMPANIES FOR MORE ACCURATE LOCATION PRIOR TO ANY EXCAVATION. TO OBTAIN ADDITIONAL UTILITY INFORMATION OR TO ARRANGE FOR FIELD LOCATION OF EXISTING UTILITIES BEFORE EXCAVATION. CALL THE PENNSYLVANIA ONE CALL SYSTEM AT 1-800-242-1776. THE UTILITY COMPANIES SHOWN MAY OR MAY NOT HAVE UTILITY LINES IN THE AREA. CALL BEFORE YOU DIG !! BID DOCUMENTS - NOT FOR CONSTRUCTION SERIAL NUMBER 20123192140 FULLY SPRINKLERED Project Title Drawing Title Project Number CONSULTANTS: ARCHITECT/ENGINEERS: Office of SITE/CIVIL: AE - UNIVERSITY DRIVE VA244-P-1749 SOIL EROSION AND SEDIMENT RESEARCH BUILDING ADDITION SCOTT ROWLAND, P.E LANGAN ENGINEERING ANI Construction **Building Number CONTROL NOTES |**=LANGAN **ENVIRONMENTAL SERVICES** NO. 30 and Facilities PROFESSIONAL ENGINEER Miller-Remick LLC PA LICENCE NO. PE-08056. M.E.P. & Structural Engineering A Veteran Owned Small Business Approved: Project Director

1010 KINGS HIGHWAY SOUTH

CHERRY HILL, NEW JERSEY 08034

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BUILDING ONE - 1st FLOOR

PHONE: (856)429-4000

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SIGNATURE: _

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DESCRIPTION

VA FORM 08-623

Canonsburg, PA. 15317-9540

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Drawing Number

VA HEALTHCARE, PITTSBURGH PA

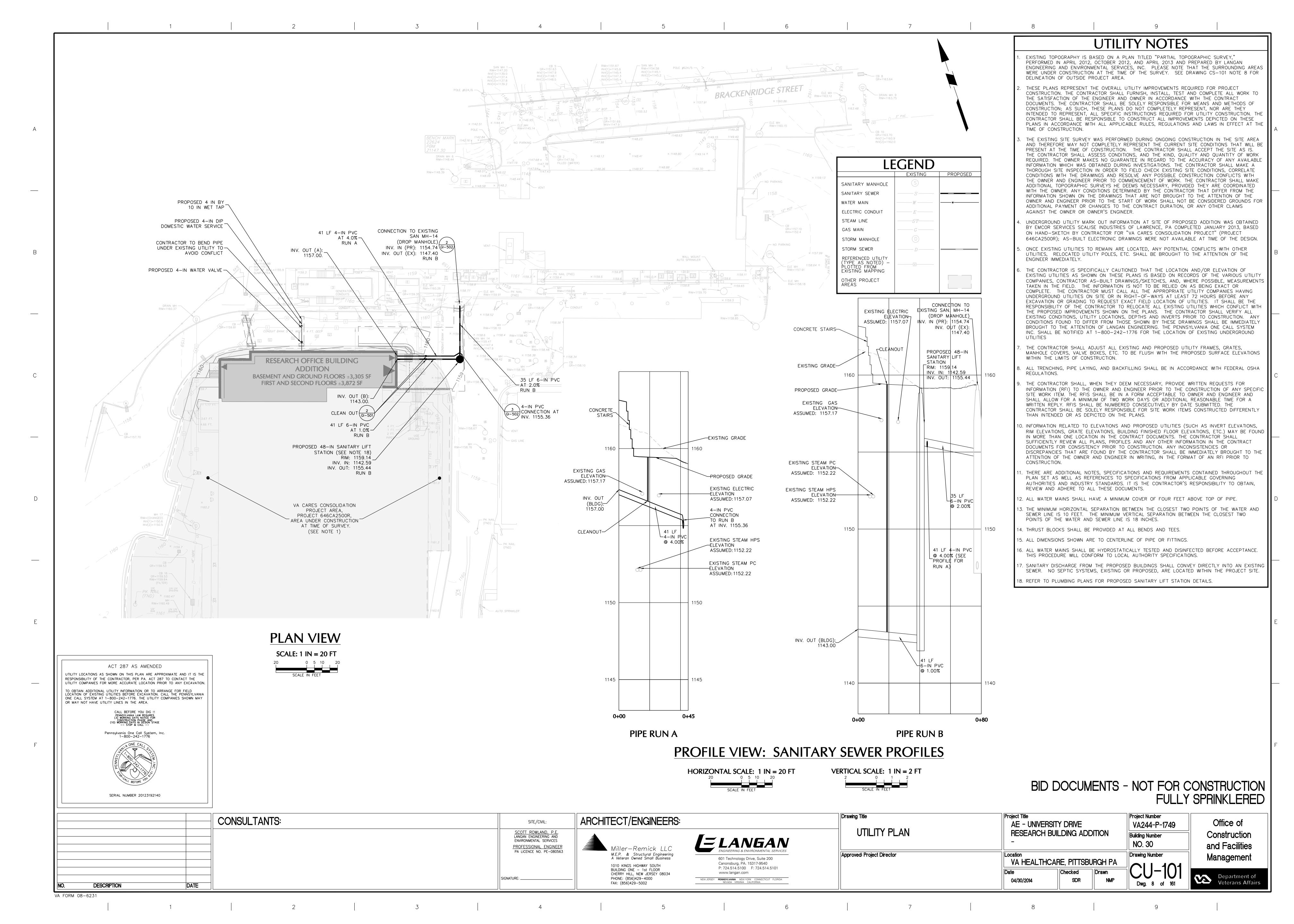
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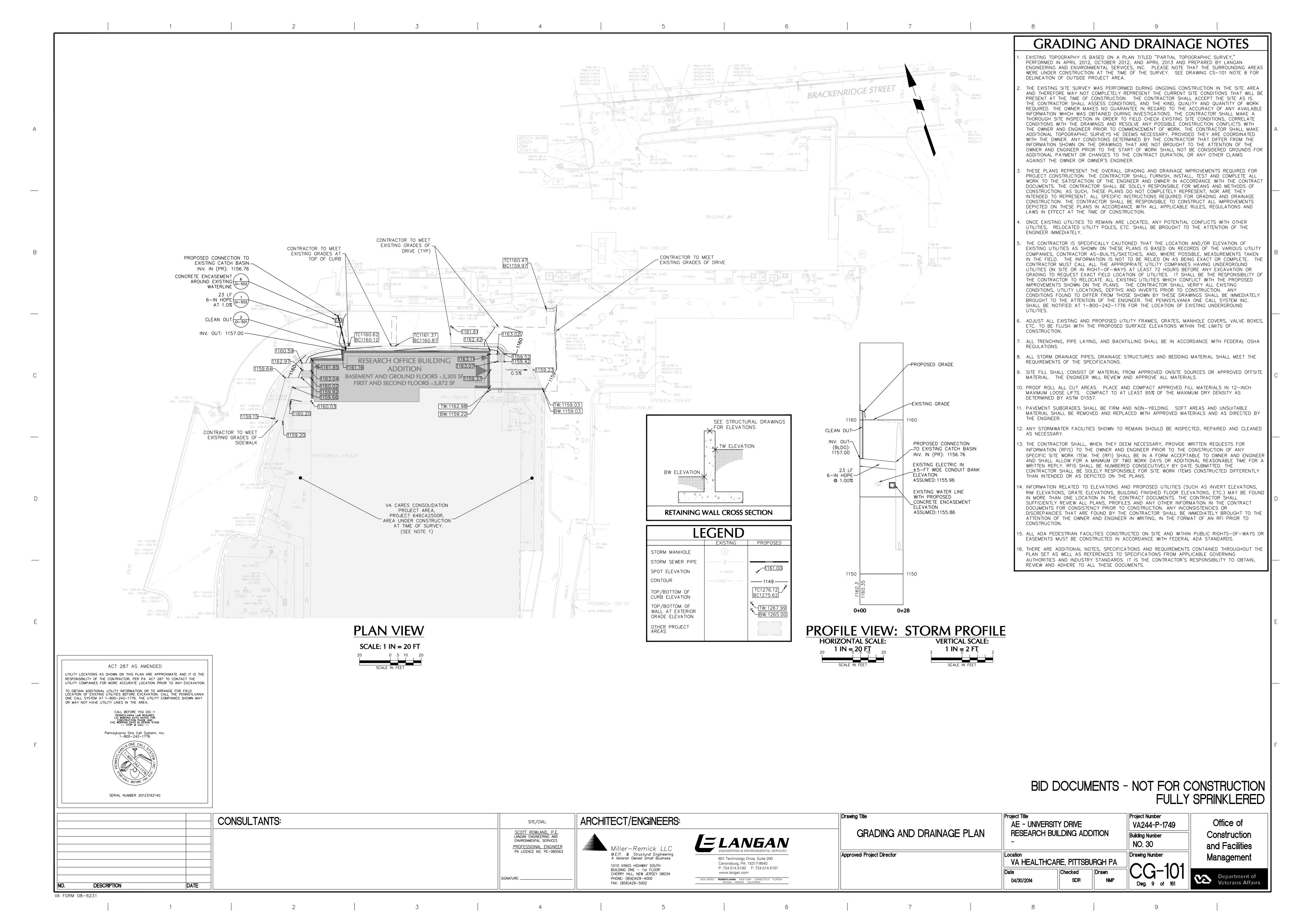
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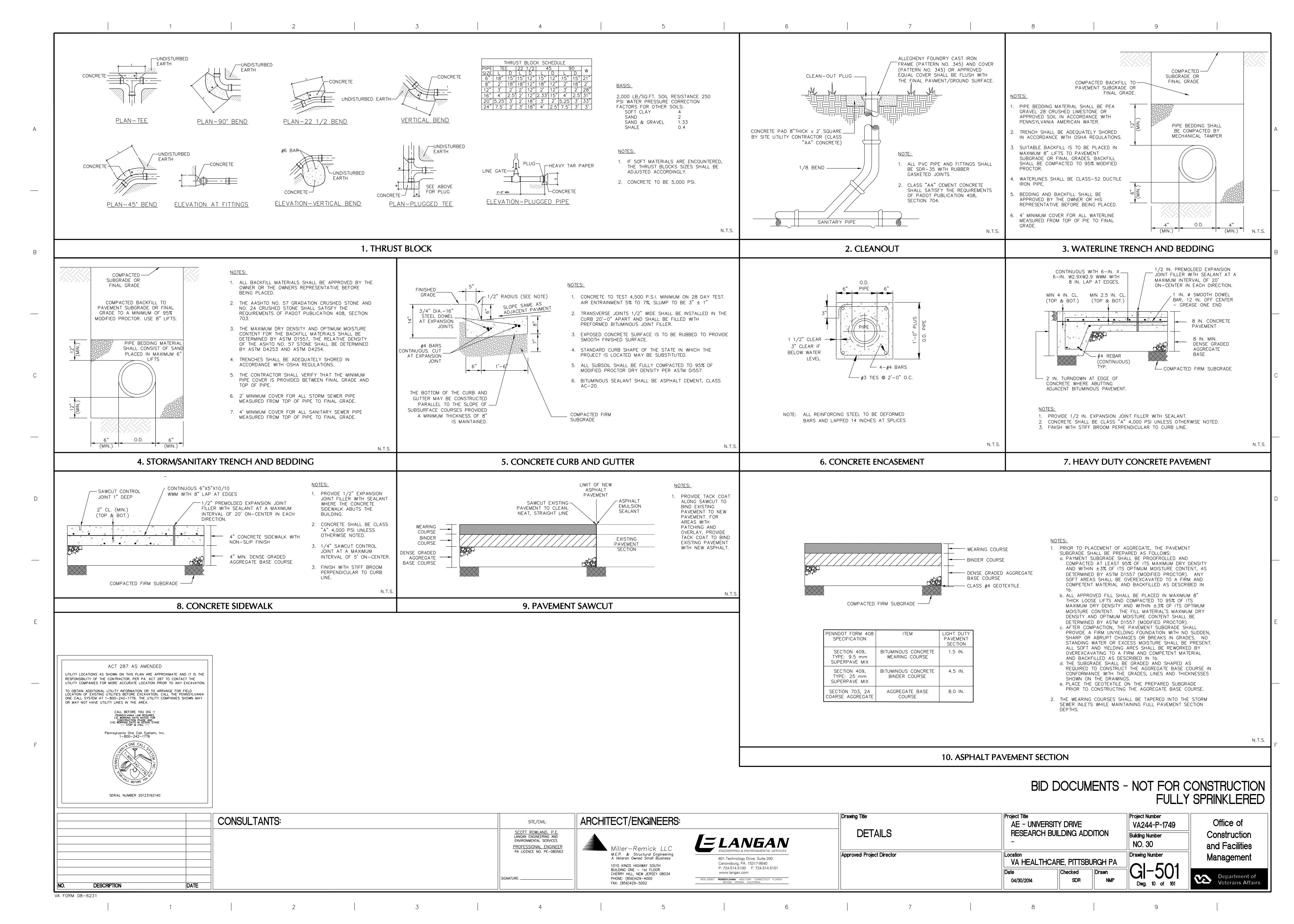
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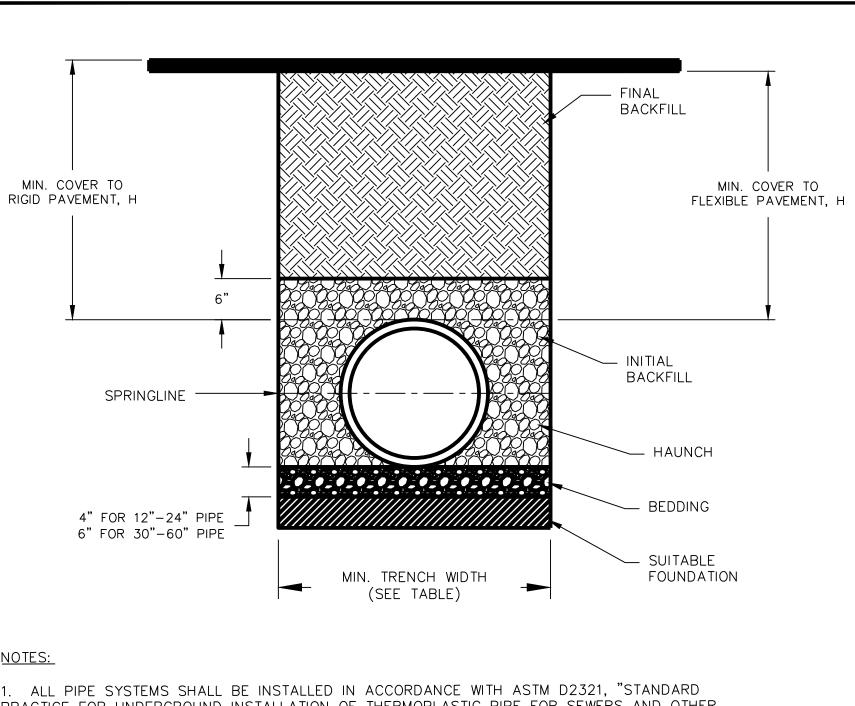
Management

Department of Veterans Affairs









NOTES:

- PRACTICE FOR UNDERGROUND INSTALLATION OF THERMOPLASTIC PIPE FOR SEWERS AND OTHER GRAVITY FLOW APPLICATIONS", LATEST ADDITION.
- MEASURES SHOULD BE TAKEN TO PREVENT MIGRATION OF NATIVE FINES INTO BACKFILL MATERIAL, WHEN REQUIRED.
- FOUNDATION: WHERE THE TRENCH BOTTOM IS UNSTABLE, THE CONTRACTOR SHALL EXCAVATE TO A DEPTH REQUIRED BY THE ENGINEER AND REPLACE WITH SUITABLE MATERIAL AS SPECIFIED BY THE ENGINEER. AS AN ALTERNATIVE AND AT THE DISCRETION OF THE DESIGN ENGINEER. THE TRENCH BOTTOM MAY BE STABILIZED USING A GEOTEXTILE MATERIAL.
- 4. <u>BEDDING:</u> SUITABLE MATERIAL SHALL BE CLASS I, II OR III. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER, UNLESS OTHERWISE NOTED BY THE ENGINEER, MINIMUM BEDDING THICKNESS SHALL BE 4" (100mm) FOR 4"-24" (100mm-600mm); 6" (150mm) FOR 30"-60" (750mm-900mm).
- 5. INITIAL BACKFILL: SUITABLE MATERIAL SHALL BE CLASS I, II OR III IN THE PIPE ZONE EXTENDING NOT LESS THAN 6" ABOVE CROWN OF PIPE. THE CONTRACTOR SHALL PROVIDE DOCUMENTATION FOR MATERIAL SPECIFICATION TO ENGINEER. MATERIAL SHALL BE INSTALLED AS REQUIRED IN ASTM D2321, LATEST EDITION.
- 6. MINIMUM COVER: MINIMUM COVER, H, IN NON-TRAFFIC APPLICATIONS (GRASS OR LANDSCAPE AREAS) IS 12" FROM THE TOP OF PIPE TO GROUND SURFACE. ADDITIONAL COVER MAY BE REQUIRED TO PREVENT FLOTATION. FOR TRAFFIC APPLICATIONS, MINIMUM COVER, H, IS 12" UP TO 48" DIAMETER PIPE AND 24" OF COVER FOR 54"-60" DIAMETER PIPE, MEASURED FROM TOP OF PIPE TO BOTTOM OF FLEXIBLE PAVEMENT OR TO TOP OF RIGID PAVEMENT.

SHALL REVIEW THESE DETAILS PRIOR TO CONSTRUCTION. IT IS THE DESIGN ENGINEERS

RESPONSIBILITY TO ENSURE THE DETAILS PROVIDED HEREIN MEETS OR EXCEEDS THE APPLICABLE

Δ 2007 ADS, INC.

ACCEPTABLE FOR THIS PROJECT.

RECOMMENDED MINIMUM TRENCH WIDTHS

PIPE DIAM.	MIN. TRENCH WIDTH		
4"	21"		
6"	23"		
8"	26"		
10"	28"		
12"	30"		
15"	34"		
18"	39"		
24"	48"		
30"	56"		
36"	64"		
42"	72"		
48"	80"		
54"	88"		
60"	96"		
60"	96"		

MINIMUM RECOMMENDED COVER BASED ON VECHICLE LOADING CONDITIONS

	SURFACE LIVE LOADING CONDITION		
PIPE DIAM.	H-25	HEAVY CONSTRUCTION (75T AXLE LOAD) *	
12" - 48"	12"	48"	
54" - 60"	24"	60"	

* VEHICLES IN EXCESS OF 75T MAY REQUIRE ADDITIONAL COVER

MINIMUM RECOMMENDED COVER BASED ON RAILWAY LOADING CONDITIONS

PIPE DIAM.	COOPER E-80**
UP TO 24"	24"
30"-36"	36"
42"-60"	48"

** COVER IS MEASURED FROM TOP OF PIPE TO BOTTOM OF RAILWAY TIE. *** E-80 COVER REQUIREMENTS, ARE ONLY APPLICABLE

ADVANCED DRAINAGE SYSTEMS, INC. ("ADS") HAS PREPARED THIS DETAIL BASED ON INFORMATION PROVIDED TO ADS. THIS DRAWING IS INTENDED TO DEPICT THE COMPONENTS AS REQUESTED. ADS HAS NOT PERFORMED ANY ENGINEERING OR DESIGN SERVICES FOR THIS PROJECT, NOR HAS ADS INDEPENDENTLY VERIFIED THE INFORMATION SUPPLIED. THE INSTALLATION DETAILS PROVIDED HEREIN ARE GENERAL RECOMMENDATIONS AND ARE NOT SPECIFIC FOR THIS PROJECT. THE DESIGN ENGINEER

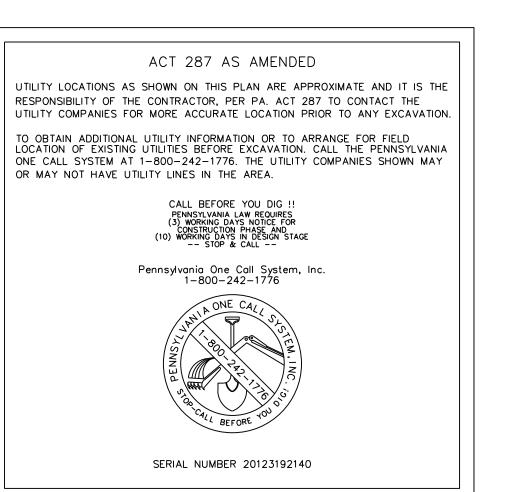
TYPICAL TRENCH DETAIL NATIONAL, STATE, OR LOCAL REQUIREMENTS AND TO ENSURE THAT THE DETAILS PROVIDED HEREIN ARE DRAWING NUMBER: STD-101

TO ASTM F 2306 PIPE.

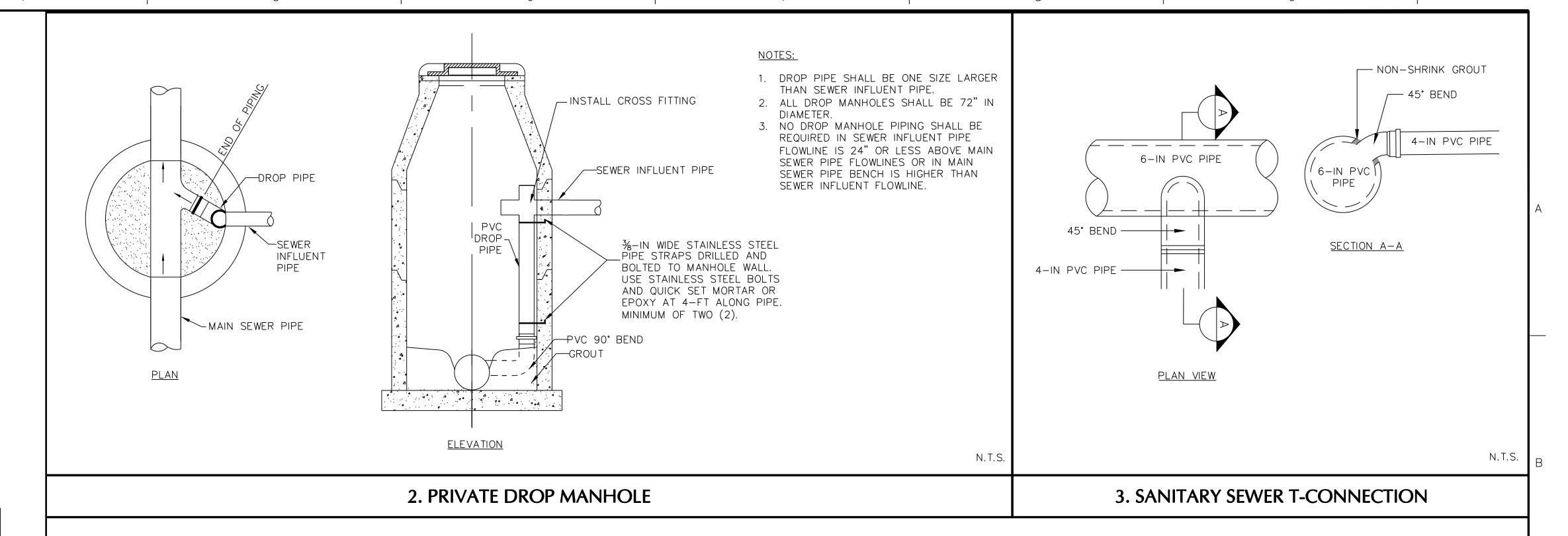
LIARD, OHIO 43026 ADVANCED DRAINAGE SYSTEMS, INC.

N.T.S.

1. HDPE PIPE DETAIL



VA FORM 08-6231



BID DOCUMENTS - NOT FOR CONSTRUCTION FULLY SPRINKLERED

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PA LICENCE NO. PE-080563 Miller-Remick LLC M.E.P. & Structural Engineering A Veteran Owned Small Business Approved: Project Director Drawing Number Management VA HEALTHCARE, PITTSBURGH PA Canonsburg, PA. 15317-9540 1010 KINGS HIGHWAY SOUTH P: 724.514.5100 F: 724.514.5101 BUILDING ONE - 1st FLOOR www.langan.com CHERRY HILL, NEW JERSEY 08034 Department of Veterans Affairs NEW JERSEY **PENNSYLVANIA** NEW YORK CONNECTICUT FLORIDA NEVADA VIRGINIA CALIFORNIA SIGNATURE: ____ PHONE: (856)429-4000 SDR 04/30/2014 FAX: (856)429-5002 DESCRIPTION

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